

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:


Claim 1 (currently amended): A low-residual-solvent excipient which has residual solvent of less than 3000 ppm;

wherein said excipient possesses water absorbing property which is characterized by the presence of a methoxy alkylcarboxyl ($-\text{CH}_2-\text{O}-\text{RCOO}^-\text{A}^+$) group in said excipient;

wherein R is a lower alkyl group having 1-4 carbon atoms; and

wherein A^+ is Na^+ or K^+ .

Claim 2 (original): The low-residual-solvent excipient according to claim 1, wherein said low-residual-solvent excipient is a polysaccharide based material.

 Claim 3 (currently amended): The low-residual-solvent excipient according to claim 2, wherein said polysaccharide based material is one selected from the group consisting of starch based material, cellulose based material, chitin based material, sugar, Arabic gum, and Guar gum.

Claim 4 (currently Amended): The low-residual-solvent excipient according to claim 3, wherein said starch based material is one selected from the group consisting of starch, amylose, amylopectin, gelatin, ~~starch-1500~~, and sodium starch glycolate.

Claim 5 (original): The low-residual-solvent excipient according to claim 3, wherein said cellulose based material is one selected from the group consisting of cellulose, microcrystalline cellulose, hydroxypropyl cellulose, carboxymethyl cellulose, croscarmellose, and hydroxypropyl-methyl-cellulose.

Claim 6 (original): The low-residual-solvent excipient according to claim 3, wherein said chitin-based material is chitosan.

Claim 7 (original): The low-residual-solvent excipient according to claim 1, wherein said residual solvent is at least one selected from the group consisting of methanol, ethanol, isopropanol, and acetone.

Claim 8 (currently amended): The low-residual-solvent excipient according to claim 2, ~~further comprising~~ wherein said methoxy alkylcarboxyl ($-\text{CH}_2-\text{O}-\text{RCOO}^-\text{A}^+$) group of said excipient is obtained by reacting a carbinol group ($-\text{CH}_2\text{OH}$) of said excipient with a water absorbing radical.

Claim 9 (currently amended): The low-residual-solvent excipient according to claim 8, wherein said water absorbing radical is a $-\text{R}-\text{COO}^-\text{A}^+$ radical, wherein R is a lower alkyl group having 1-4 carbon atoms; wherein A^+ is Na^+ or K^+ Ca^{2+} .

Claim 10 (original): The low-residual-solvent excipient according to claim 9, wherein said $(-\text{R}-\text{COO}^-\text{A}^+)$ radical is an acetate sodium radical ($-\text{CH}_2\text{COONa}$).

Claim 11 (cancelled)

Claim 12 (original): The low-residual-solvent excipient according to claim 1, wherein said low-residual-solvent excipient is used in at least one selected from the group consisting of pharmaceuticals, fish foods, plant growth regulators, pesticides and herbicides.

Claim 13 (original): A method for producing the low-residual-solvent excipient according to claim 1, comprising:

mixing a solvent/water solution with said low-residual-solvent excipient to form a solvent/water/excipient mixture;

removing said solvent by filtering said solvent/water/excipient mixture;

drying said retained excipient to produce said low-residual-solvent excipient.

Claim 14 (original): The method according to claim 13, wherein said solvent/water solution is one selected from the group consisting of isopropanol/water, acetone/water, and methanol/water.

Claim 15 (original): The method according to claim 14, wherein said isopropanol/water solution has 75-95% by volume of isopropanol and 5-25% by volume of water.

Claim 16 (original): The method according to claim 14, wherein said acetone/water solution has 65-95% by volume of acetone and 5-35% by volume of water.

Claim 17 (original): The method according to claim 14, wherein said methanol/water solution has 60-85% by volume of methanol and 15-40% by volume of water.

Claim 18 (original): The method according to claim 13, wherein said low-residual-solvent excipient is a polysaccharide based material.

Claim 19 (original): The method according to claim 13, wherein said solvent/water solution and said low-residual-solvent excipient is mixed at about 20 to 30°C and with high-speed agitation.

Claim 20 (original): The method according to claim 19, wherein said high speed agitation is at least at 90 rpm.

Claims 21-25 (cancelled)

Claim 26 (currently amended) The method according to claim 18, wherein said polysaccharide based material is one selected from the group consisting of potato starch, corn starch, amylose, amylopectin, gelatin, ~~starch-1500~~, sodium starch glycolate, cellulose,

microcrystalline cellulose, hydroxypropyl cellulose, carboxymethyl cellulose, croscarmellose, hydroxypropyl-methyl-cellulose, and chitosan.

Claim 27 (cancelled)

Claim ³⁰~~28~~ (new): The method according to claim 13, further comprising a step of:

attaching a water-absorbing radical to said low-residual-solvent excipient before said low-residual-solvent excipient mixes with said solvent/water solution;

wherein said water absorbing radical is a $(-RCOO^-A^+)$ radical, where A^+ is Na^+ or K^+ ;

and

wherein R is a lower alkyl group having 1-4 carbon atoms.

Claim ³¹~~29~~ (new): The method according to claim 28, wherein said water absorbing radical is an acetate sodium radical $(-CH_2COONa)$.

Claim ³²~~30~~ (new): The method according to claim 28, wherein said $(-RCOO^-A^+)$ radical is attached to a carbinol $(-CH_2OH)$ group of said low-residual-solvent excipient to form a $(-CH_2-O-R-COO^-A^+)$ linkage.

Claim ³³~~31~~ (new): The method according to claim 30, wherein said $(-CH_2-O-R-COO^-A^+)$ linkage is produced by mixing said polysaccharide based material with methanol, sodium hydroxide, and a $(Cl-R-COO^-A^+)$ at about 100°C for about 10 hours.

Claim ³⁴~~32~~ (new): The method according to claim 31, wherein said $(Cl-R-COO^-A^+)$ is a monochloroacetate sodium $(Cl-CH_2-COONa)$.

Claim ³⁵~~33~~ (new): A low-residual-solvent excipient which has residual solvent of less than 3000 rpm and possesses water absorbing property; wherein said low-residual-solvent excipient is a gelatinized starch.

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Claim ~~34~~ (new): The low-residual-solvent excipient which has residual solvent

according to claim 33, wherein said gelatinized starch is starch 1500 from corn starch.
